COCONINO COUNTY ARIZONA

Coconino County's Transportation System

County Transportation Citizen Advisory Committee

November 5, 2013

Presentation Outline

- Introduction & Overview of County Transportation System
- County-Owned Roads
- Bureau of Indian Affairs Roads
- U.S. Forest Service Roads
- Questions & Discussion

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Introduction

- **Coconino County's Largest Financial Asset**
  - County Owned Roads are Valued at About $100 Million
- **Road Assets are Deteriorating Rapidly and Need Major Sustainable Investment**
  - About 25% - 35% of County and USFS Paved Roads are in Severe or Poor Condition
  - Driving on Roads in Need of Repair Costs Arizona Motorists $887 Million/Yr. in Extra Vehicle Repairs and Operating Costs – $205/Motorist*

Introduction

- **Major Revenue Sources Down Dramatically**
  - **Highway User Revenue Fund (HURF)**
    - Down $2.5 Million or 23% Since FY-2007
      - Decrease Resulting from State Shifts & Decreased Gasoline Sales Due to Several Reasons
      - Impact Compounded When Compared to Counties Without Snowplowing Services (Approximately $2 Million/Yr. in Coconino County)
      - Current Funding Equivalent to FY-1998 Levels
  - **Federal & State Gas Taxes of Have Not Been Increased in over 20 Years**

Introduction

- **Major Revenue Sources Down Dramatically**
  - **Vehicle License Tax (VLT)**
    - Down 23% Since FY-2008
  - **Secure Rural Schools (SRS)**
    - Funding Expired Sept. 30, 2012
    - Congress Re-Authorized for One Additional Year (FY2014)
    - Will Receive Final Payment this Year

Introduction

- **Importance**
  - County Resident Survey Shows Residents Highly Value Road Services & Emergency Services
  - Roads Crucial for Economic Vitality, Citizen Safety & Quality of Life
  - County at Crossroads:
    - *Direction Must be Set Now to Achieve Sustainable, Long-Term Transportation Services*

Coconino County
Transportation System Overview

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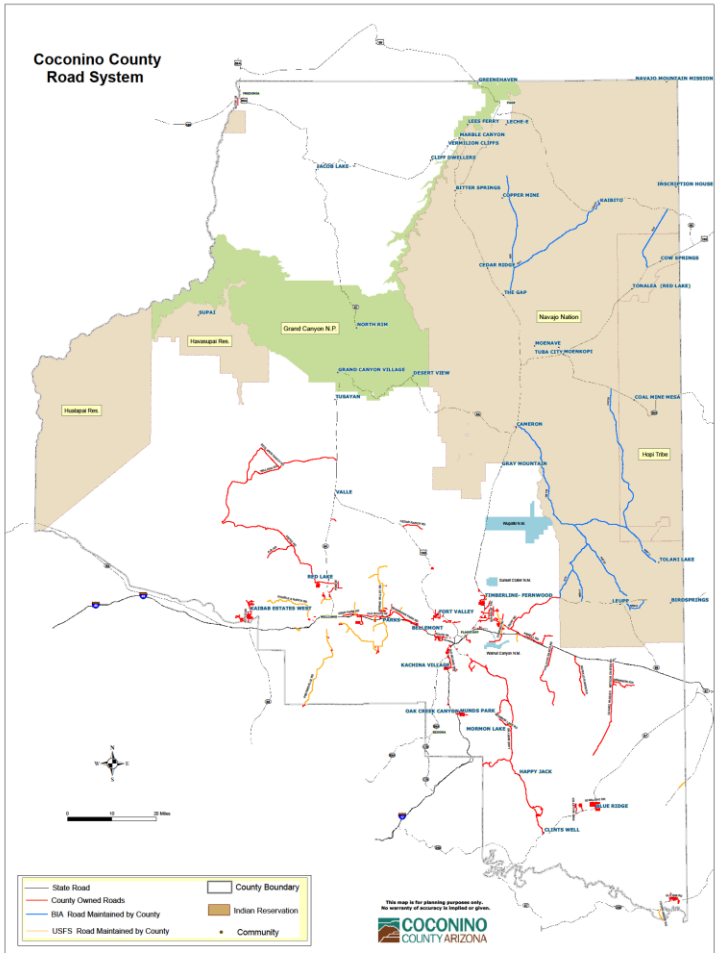
County Road System Map



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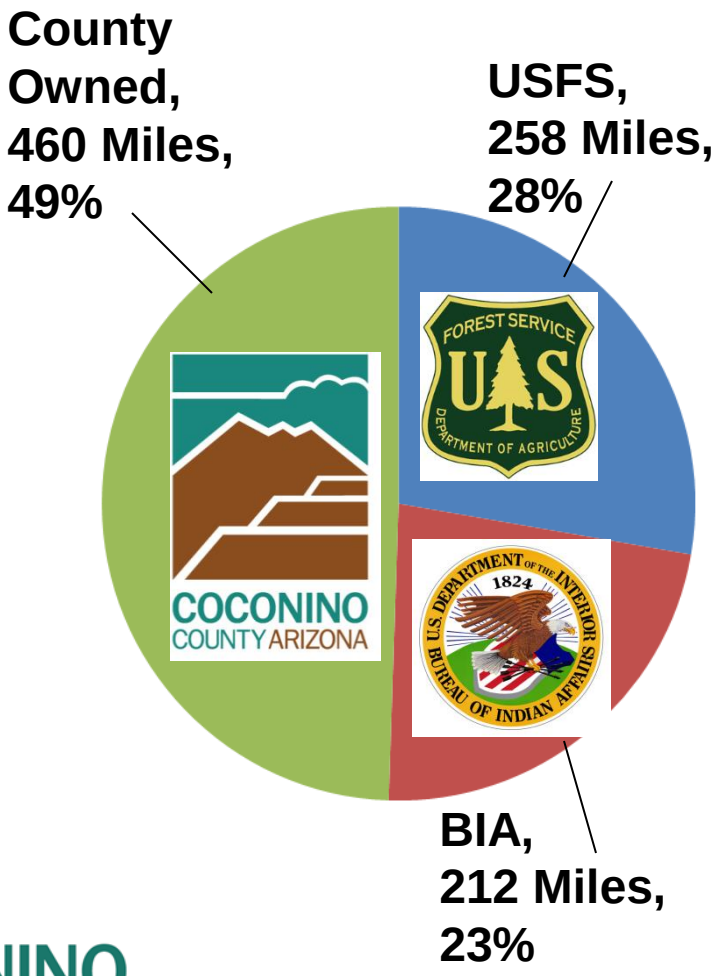
Road Ownership

Road Ownership

930 Total Miles Maintained

- 460 Miles Statutorily Owned & Maintained by the County
- 258 Miles of Forest Service Roads Maintained by Contractual Agreement (Not Mandated)
- 212 Miles of BIA Roads Maintained by Contractual Agreement (Not Mandated)



Road Classification

Road Classification

Road Classification Criteria

- Traffic Generators
- Traffic Destinations
- Travel Speed
- Traffic Volume
- Urban vs. Rural Setting

Road Classes

- Local
- Minor Collector
- Major Collector
- Minor Arterial
- Principal Arterial

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Examples of Road Classes in Coconino County

Class	Example	ADT (Average Daily Traffic)
Local	Brandis Way	284
	N6812 (Navajo Nation)	45
Minor Collector	Bader Road	1,009
	Campbell Avenue	1,336
Major Collector	Mountainaire Road	2,499
	Lake Mary Road	2,882
	Silver Saddle Road	5,412
Minor Arterial	Townsend-Winona Road	7,195
Principal Arterial	None in County System	

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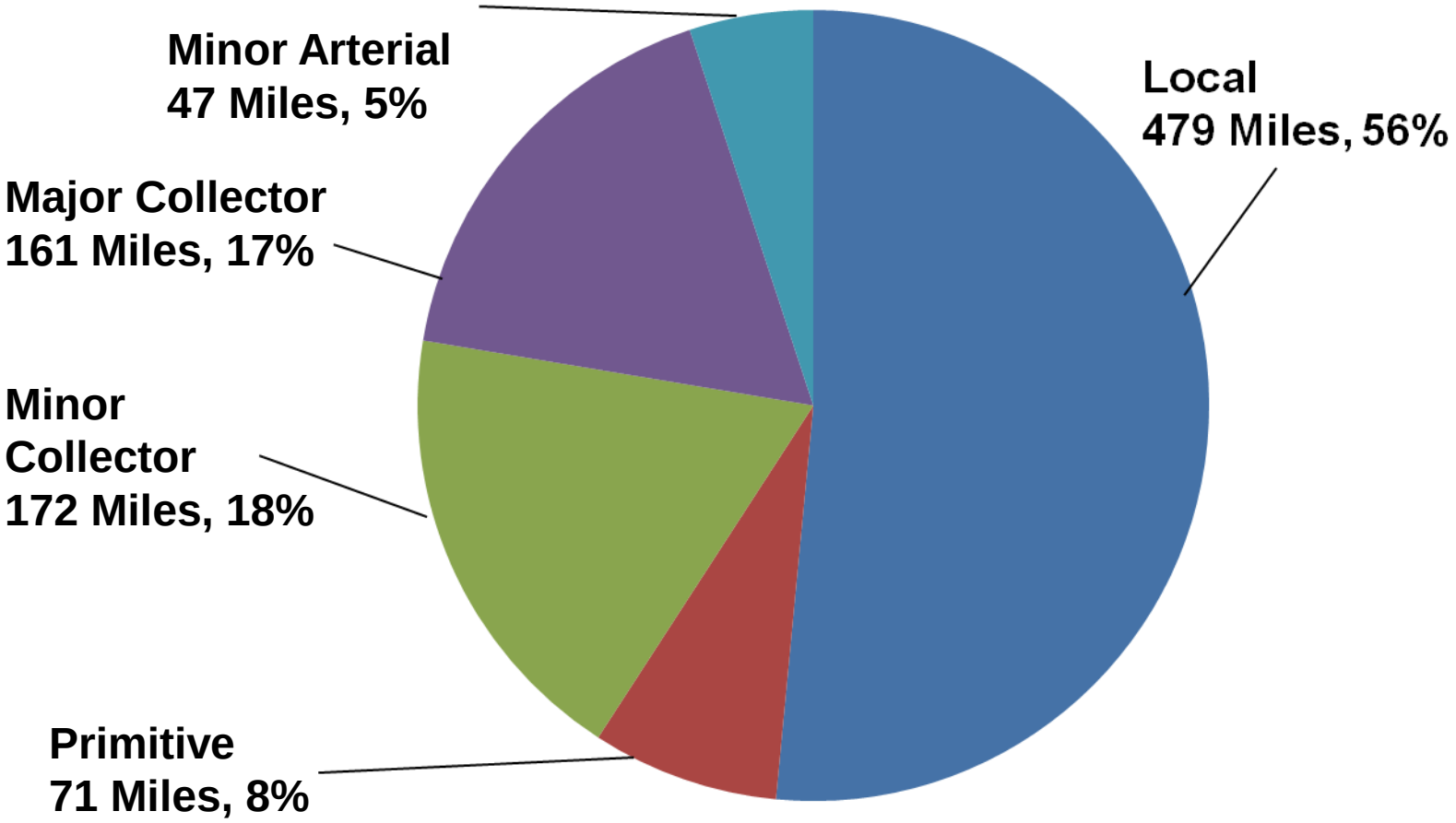
Road Classification: All County Maintained Roads



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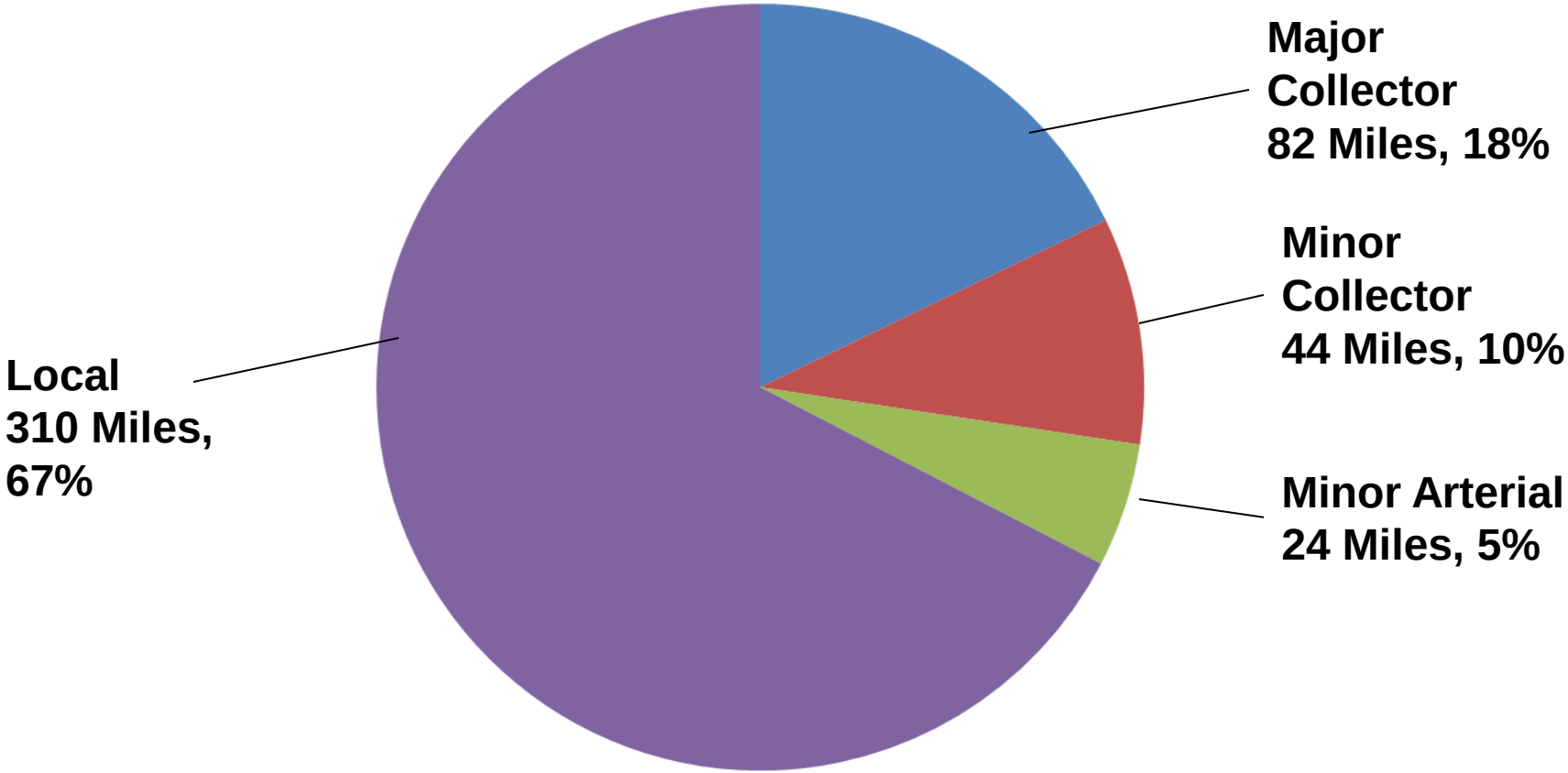
County Owned Roads Classification



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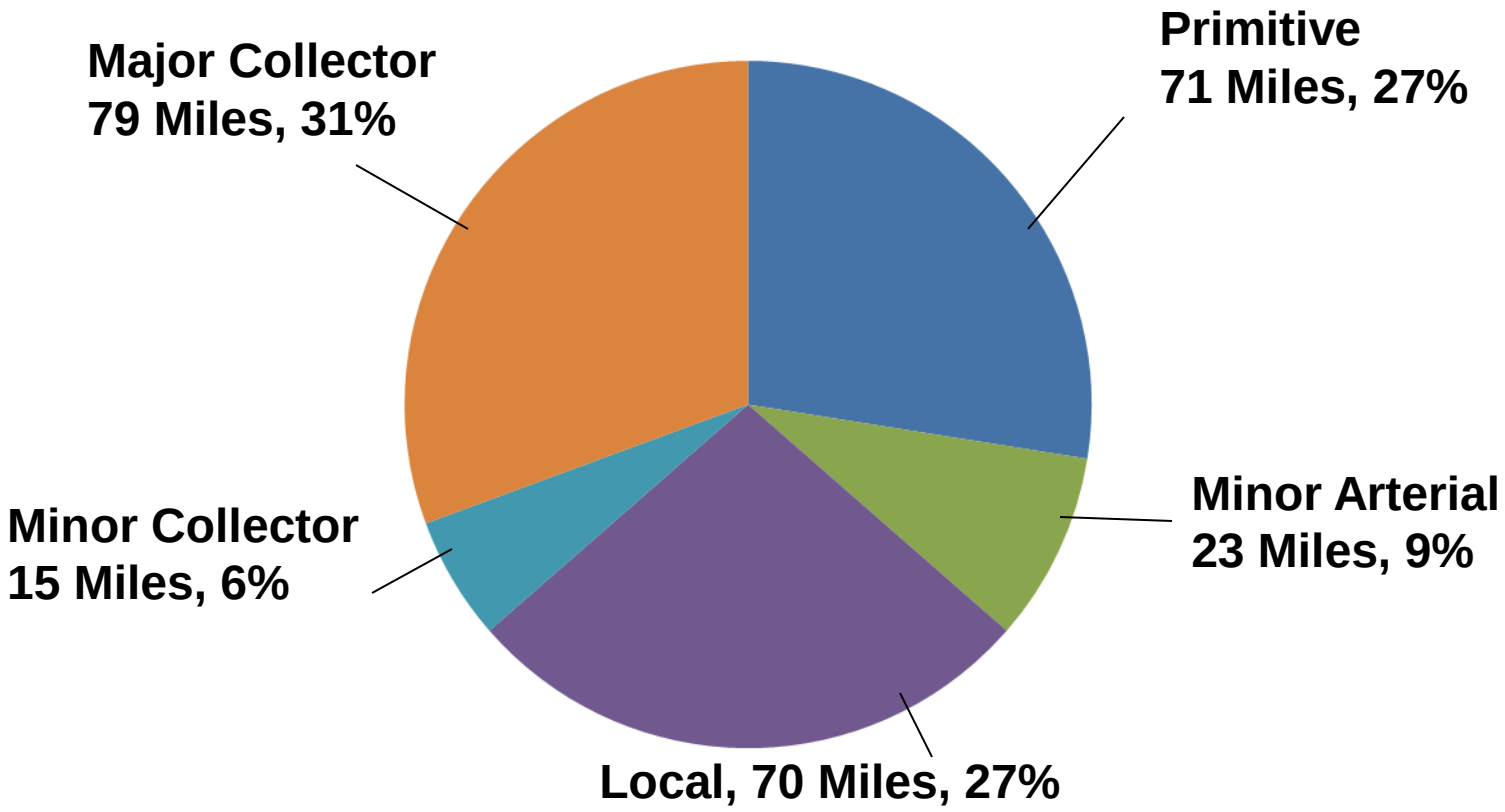
U.S. Forest Service Road Classification



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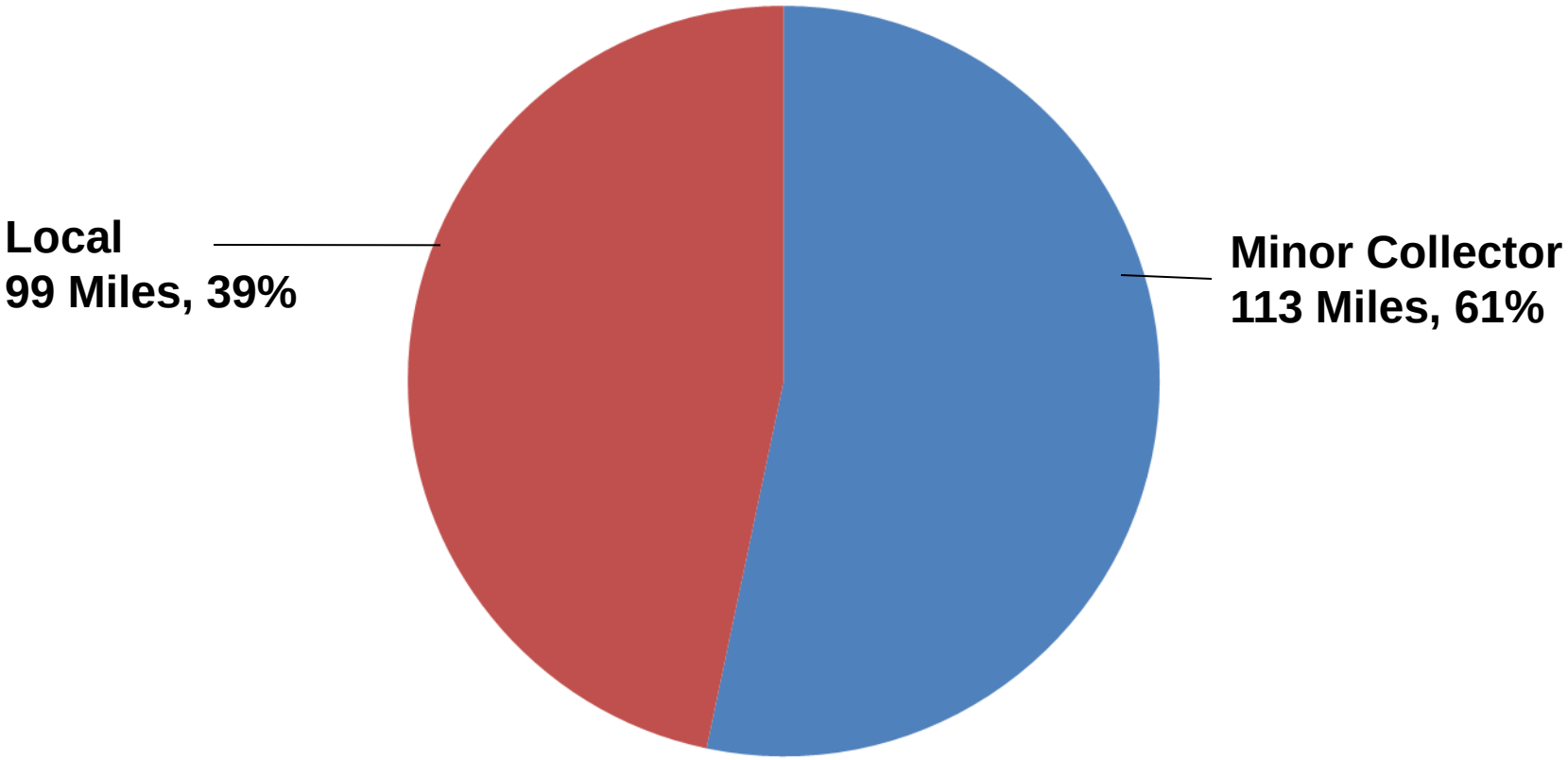
Navajo Nation/BIA Road Classification



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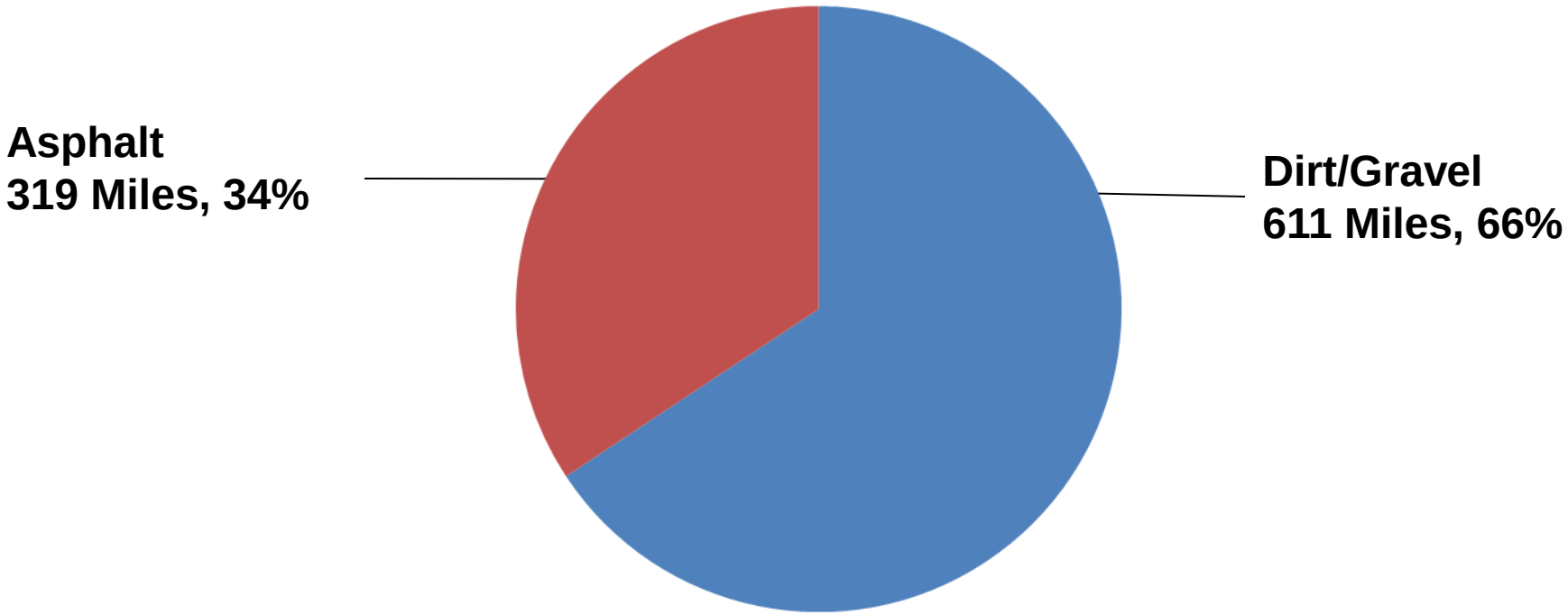
Road Surface

Road Surface:
All County Maintained Roads



County Owned & Forest Service Roads Mix of Asphalt & Dirt/Gravel
Navajo Nation/BIA Roads are All Dirt

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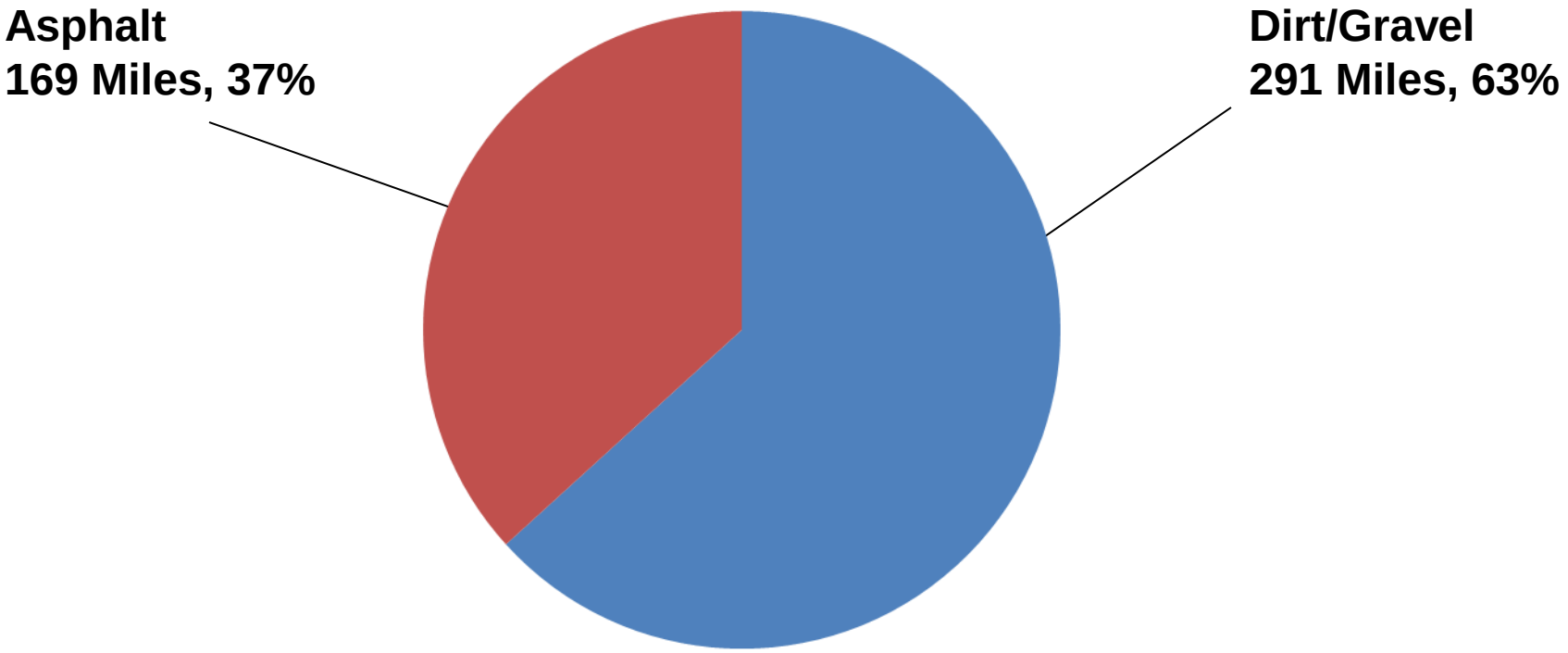
County Owned Roads
Road Surface



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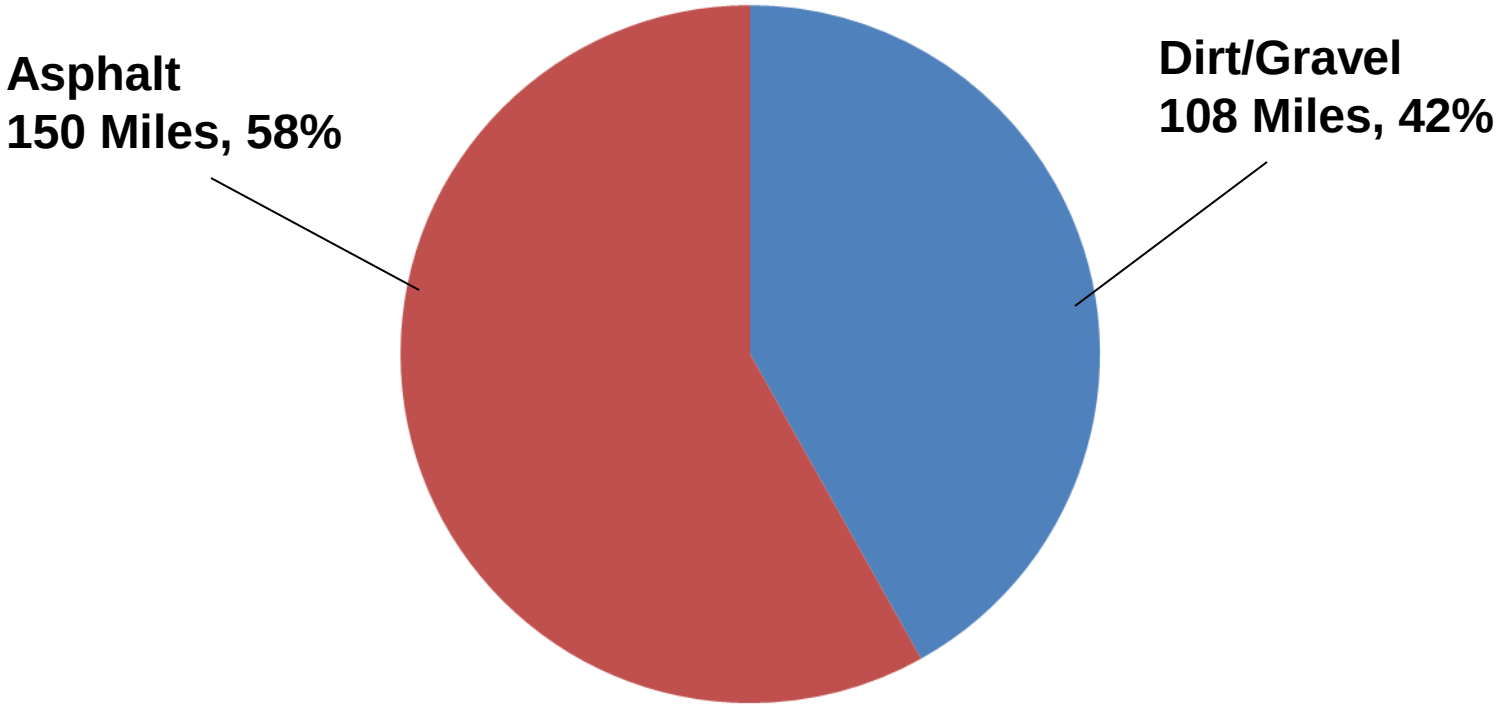
Forest Service Roads
Road Surface



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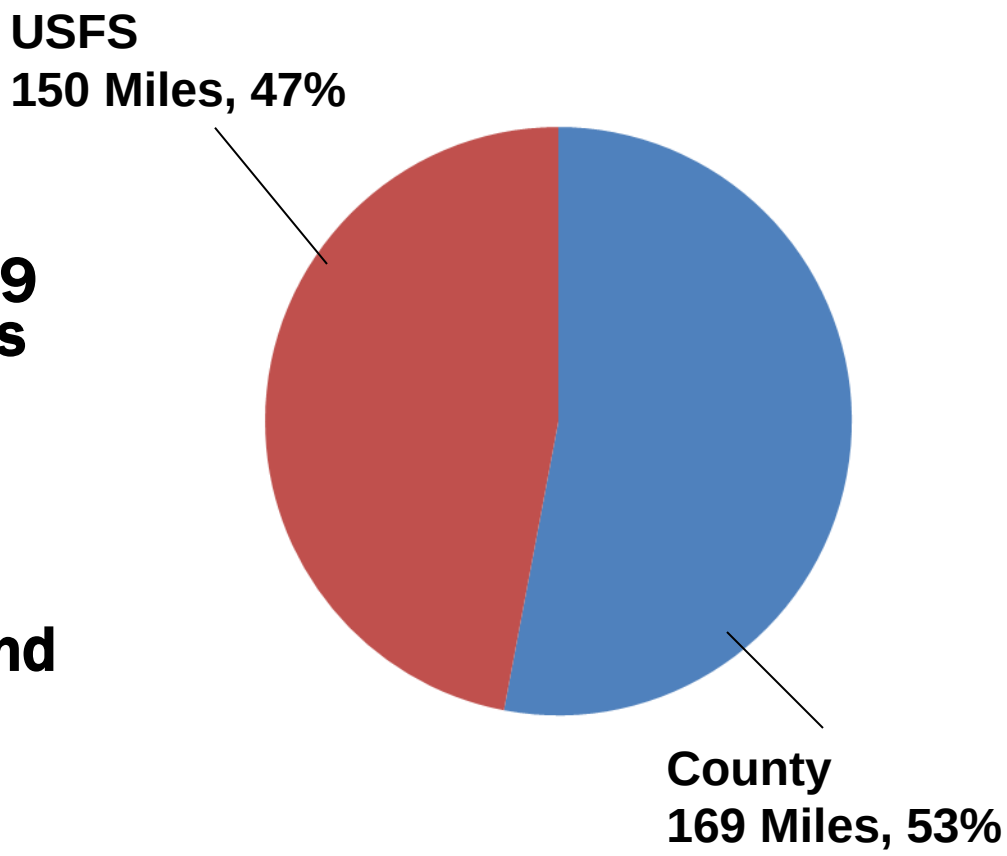
Asphalt Surface Roads

Surface Type

- **Of the County's Total 319 Asphalt Miles, 150 miles (47%) are USFS Roads**
- **58% of USFS Roads are Asphalt**
  (many major arterials and collectors)



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Public Safety

- **Considerations Are Many:**
  - Number of Accidents
  - Traffic Volumes Vs. Design Capacity
  - Speed
  - Geometry of the Road & Surface of the Road
  - Visibility/Access/Clear Zone
  - Signage
  - Uses – Vehicles, Bicycles, Pedestrian
  - Emergency Response Access

Public Safety

- **Assessing Road Safety – ADOT Audits**
- **Implementation Considerations:**
  - Immediate Issues/Needs
  - Long-Term Issues/Needs
  - Cost/Budget
  - Grants/Revenue Sources
  - Ability to Secure Rights of Way
  - Public Acceptance

Key Takeaways

- Only About 50% of the Roads Maintained by the County are Owned by the County and Statutorily Required to be Maintained by the County
- About 60% of the U.S. Forest Service Roads are Paved and Many of These Roads Experience High Volumes of Traffic
- Public Safety is a Key Responsibility and a Key Consideration for Future Investment

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Questions

County-Owned Roads

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County Owned Roads

Where Does the County Derive the Authority to Maintain County-Owned Roads?

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Arizona Statutory Authority to Maintain County Roads

- **Arizona Revised Statutes Title 28-6705 states**
  - "The Board of Supervisors may spend public monies for the maintenance of public roads and streets other than legally designated state and county highways located without the limits of an incorporated city or town. Before spending public monies under this section, the roads or streets shall be both
    - Laid out, opened or constructed without cost to the county
    - Completed pursuant to a plat approved pursuant to sections 11-802 and 11-822 and in accordance with standard road engineering specifications adopted by the board of supervisors to ensure uniform compliance

Maintaining County-Owned Roads

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Maintaining County-Owned Roads

- Dirt/Gravel Road Maintenance Practices
  - Dirt/Gravel Road Material Acquisition
- Paved Road Maintenance Practices
- Capital Plan Criteria & Some Identified Needs
- Winter Road Maintenance Service
- Roadway Amenities

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County Dirt/Gravel Road Maintenance

- Blading
- Frequency (Service Level)
- Adding Road Material
- Drainage - Ditch & Culvert Cleaning

Current Strategy: Place More Material on Dirt/Gravel Roads = Improves Road Surface & Reduces Frequency of Blading = Reduced Cost per Mile & Improved Driving Experience

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Dirt/Gravel Road Material Acquisition

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Dirt/Gravel Road Material Acquisition

- Two Options – Produce and/or Purchase
- Produce - Material Pits
  - Map of Existing Pits
  - Governed by Mine Safety
    - Inspected by State and Federal Governments
    - Frequent Training Required
    - *Most* Current Pits Owned by the Forest Service
- Purchase Material

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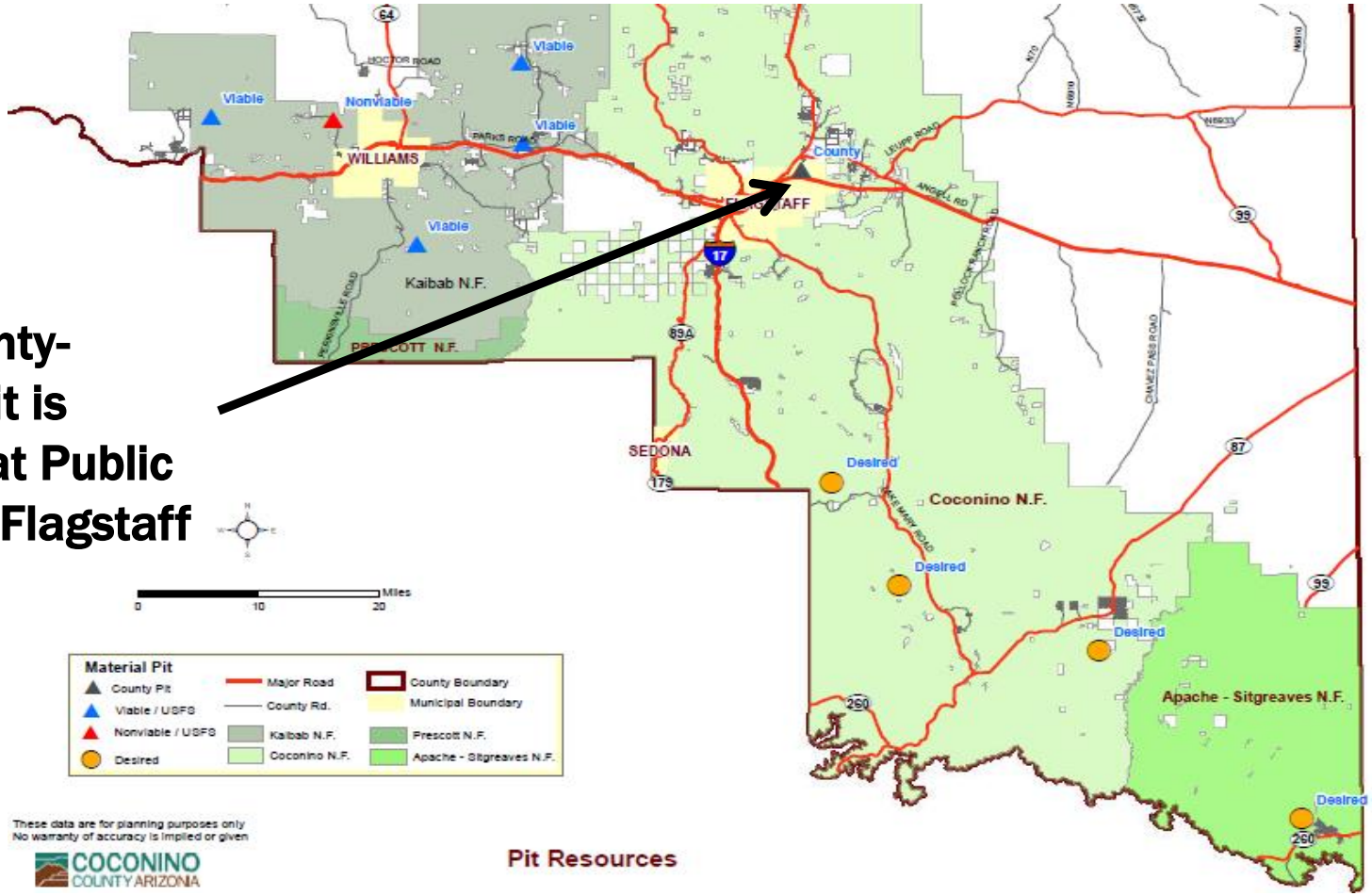
Dirt/Gravel Road Material Acquisition

Key Issue for Dirt/Gravel Roads:

- Need Additional Sources of Materials at Specific Locations to Improve Service and Reduce Transportation Cost (Labor and Fuel Costs)
- Need to Perform a Cost/Benefit Analysis of Material Production vs. Purchase for Each Location

Dirt/Gravel Road Material Acquisition

Only County-Owned Pit is Located at Public Works in Flagstaff



Pit Resources

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County Paved Road Maintenance

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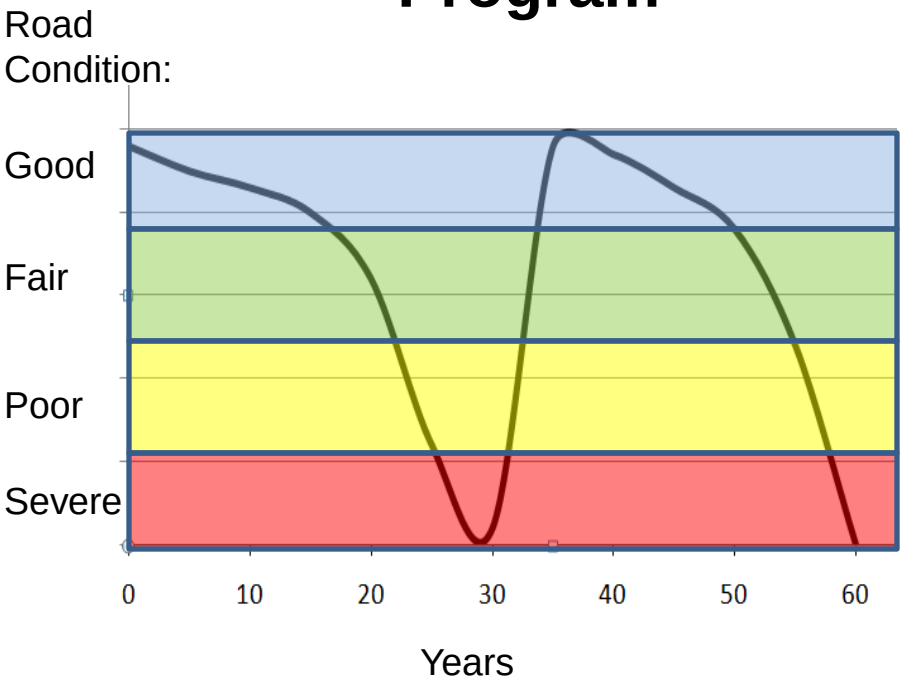
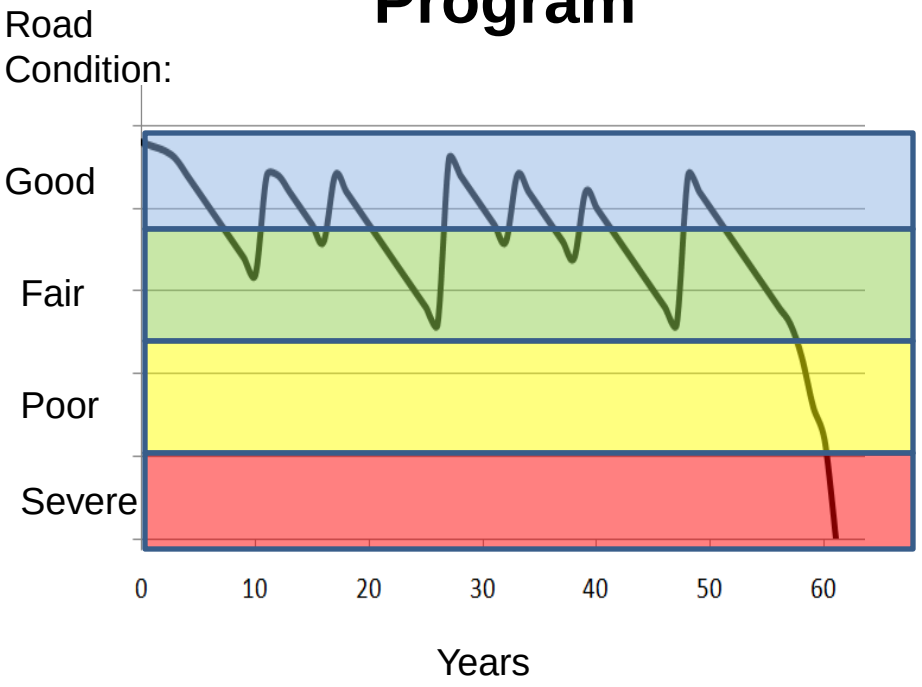
Pavement Preservation

No Maintenance Program



Effective Maintenance Program



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County Paved Road Maintenance

Practices:	Frequency:
Fog Sealing	None in 7 years
Crack Sealing	Done Prior to Chip Seal
Chip Sealing	Ten Year Plan
Overlaying	<1 % of Roads per Year
Pothole Patching	Done as Needed
Drainage/Ditch Cleaning	Done as Needed
Signage	Done as Needed
Striping	Annually
Shoulder Maintenance	Done as Needed

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County Paved Road Maintenance

- County Paved Road Maintenance Focus is Chip Sealing Done by Internal Forces & Contractors
- Ten Year Plan Updated Annually
- Spend County's Limited Budget on Chip Sealing to Cover the Most Roads with Limited Funds
- FY2011 $27,000 per Mile for 21 miles
- FY2012 $28,000 per Mile for 32 miles
- County Spends +-$500,000/Year on Chip Seal
- Goal – Closer to Industry Standard – 7 Yr. Frequency

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County Paved Road Maintenance

Fog Sealing:

- No Fog Sealing in the Last 7 Years and Historically County Completed 10 Miles per Year
- Most Effective on Newly Paved Roads – Should Perform within Three Years
- Fog Sealing Performed by Outside Contractors

County Paved Road Maintenance

Overlays of Paved Roads:

- Overlays Have Been Infrequent and Most Recently Funded by Grants
- Historically Overlaid about 1% of Paved Roads
- Example: Route 66 – ARRA Funded
- Industry Standard – 3% - 4% of Paved Roads per Year

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Road Surface Maintenance

Life Cycle Costs

	Actual Cost	Required Expenditure (per industry standards)
Pavement Preservation	$14,134 per mile annually*	$30,000 per mile annually**
Dirt/Gravel Roads	$7,991 per mile annually*	$7,991 per mile annually*** (per County Standards)

*Based on a Sample of Dirt and Asphalt Roads Maintained

**Estimated Based Upon Industry Standards, Current Costs and Road Conditions

***Dirt/Gravel Maintenance Costs include Blading, Resurfacing, Drainage, etc.

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Capital Planning Criteria

- Performance
  - Average Daily Traffic (ADT), Speed Limits, Road Classification, Road Surface, Road Condition
  - Type of Problem to be Mitigated by the Project
- Construction
  - Project Scope, Costs, Funding Sources, Funding Availability, and Timelines
- Safety
  - Accident Numbers, Causes and Severity
  - Flood Incidents, Effects and Damages

Capital Planning Criteria

- Mobility
  - Links to Other Road Systems
  - Multi-Modal Uses – Buses, Bicycles, Pedestrians
- Access
  - Types of Access Project Area Provides
  - Right of Way Considerations and Requirements

Capital Planning

- Identified Sample of Needed Projects:
  - Pinewood Blvd: I-17 to Munds Wash Bridge
  - Munds Wash Bridge
  - Townsend-Winona: Rio Rancho to I-40
  - Kachina Trails: “T” Intersection to Pumphouse Wash Bridge
  - Lake Mary Road (FLAP Process)
  - Rt. 66 Bridge Replacement – Bellemont
  - Leupp Road
  - Double A Ranch Road
  - Flagstaff Meadows Unit 1

Other Road Maintenance Related Activities

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Ditches & Culverts

- Roadside Ditches & Cross Road Culverts Preserve Roads & Maintained by County
- Driveway Culverts Ensure County Roadway Ditches are Not Obstructed
- Driveway Culverts Allow Access and Are the Responsibility of the Property Owner

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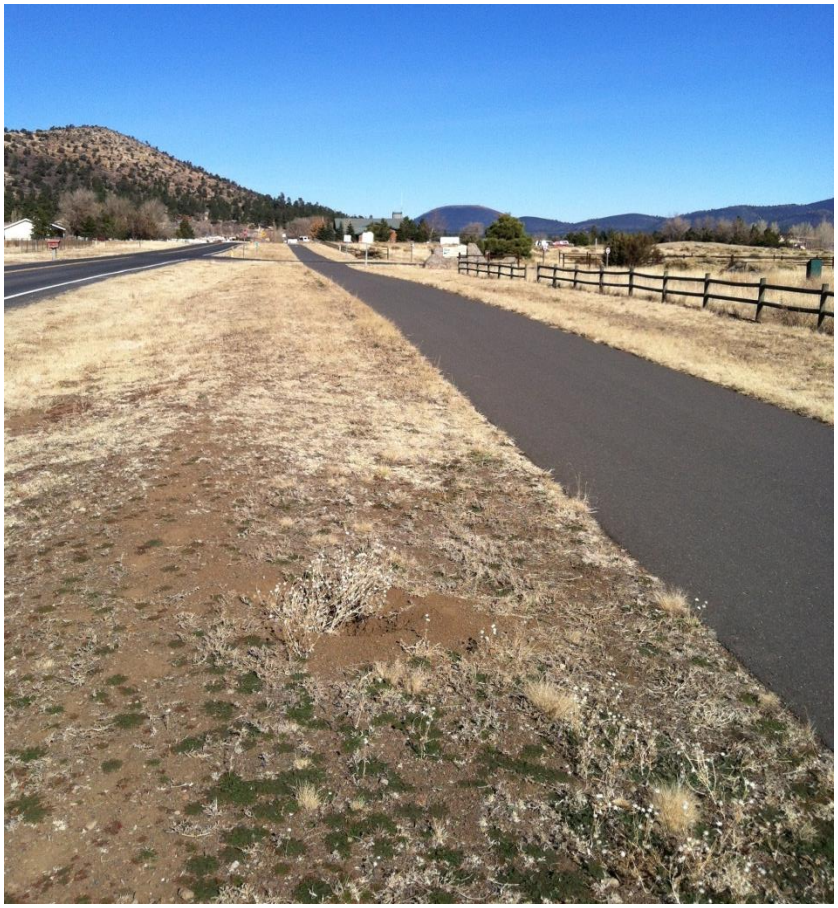
Transportation Amenities

- Sidewalks
- Multi-Use Paths
- Pedestrian Bridges
- Currently No Resources in the Budget or Standards for Constructing/Maintaining Amenities
- Need Policies to Transfer Ownership to Appropriate Parties



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Winter Road Maintenance

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Winter Road Maintenance

- Important & Highly Valued Service
- County's Goal is to Keep Roads Safe and Passable
- Snow Removal Priority is "Greatest Impact" First
- After Each Storm, Crews Perform Snow Cleanup Activities Pushing Snow Back and Cindering for Traction

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Winter Road Maintenance

- Costs are Sorted by Snow Plow Route not Road – Routes are Comprised of Several Roads
- Winter Maintenance is 17% of Total Road Maintenance Costs – This Includes USFS Roads
- $1.5 - $2 Million – Typical Cost to Plow and Cinder during a Winter Season
- A Rough Calculation for County *Only* Winter Road Maintenance is $1.3 Million
- Total Cost Depends on Severity of Winter
- Cost per Mile Varies by Location, Elevation, and Housing Density of the Route

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Key Takeaways

- Dirt Road Maintenance Costs About Half the Cost of Maintaining Paved Roads
- Initial OCI Analysis Indicates that 25% to 35% of County Maintained Paved Roads are Considered in Severe or Poor Condition
- County's Current Investment in Pavement Maintenance is at 1% but Should be at 3% to 4% of Total Asset Value
- County Spends +- $2 Million per Year on Winter Road Maintenance
- No Budget Exists to Build or Maintain Amenities, Which Are Desired by the Public
- Significant Investment Needed in USFS Owned Paved Roads with No Revenue to Support Investment
- Some Investment is Also Needed in Decision Support System & Capacity to Support Successful Investment

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Questions

BIA Roads

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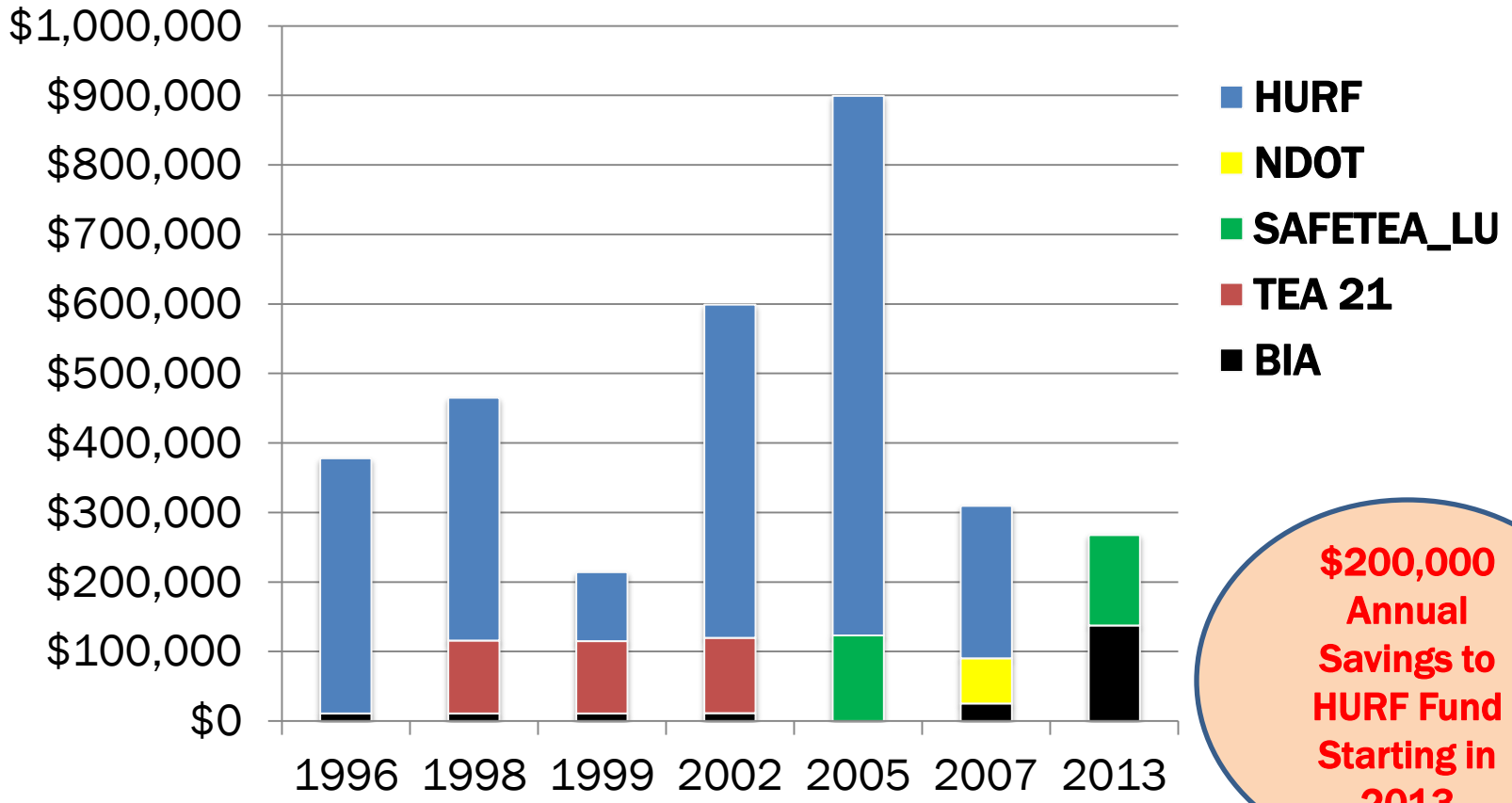
Contribution Summary to BIA Roads



$200,000 Annual Savings to HURF Fund Starting in 2013

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Recent Contractual Agreement BIA Gravel Roads

Contract Negotiations in 2011 Result in New Contract for FY 2012, Which Also Applied in FY 2013:

- **County Employs New Negotiating Strategy, Which Results in New Agreement Where All Direct Costs Beyond County Contribution is Covered by BIA and Several Other Key Terms are Now Included in the Agreement**

- **Negotiations Included County, NDOT, and BIA.**

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FY 2013 BIA Contract Terms

- BIA Provides $167,420/Year = $787/Mile
- County Provides $130,000 (SAFETEA_LU Funds)
- Total Funding Commitment = $297,420
- 212 Miles Maintained
- County Will Cease Activities When These Amounts are Reached
- BIA Roads Shall be Maintained on Average Four Times Per Year
- Current Year Costs are Tracking to Contract

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FY 2013 BIA Contract Terms

- County is Not Authorized to Perform Weather Damage Repair – Must be Directed by BIA
- County May be Requested by the BIA to Perform Other Work that is Estimated and then Funded Separately
- In Addition to the SAFETEA_LU Funding, the County also Covers Indirect Costs and Equipment Replacement (Est. Cost - $100K)

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BIA Road Maintenance Service Level

- County Shall Only Grade Roads to Provide a Passable Driving Surface and to Maintain Existing Road Elevation and Side Drainage Ditches
- Blading – An Average of 4 X Per Year
  - To Blade a Mile of Road May Take 4 to 7 Passes
- Ditch Maintenance
- Culvert Maintenance (Not Replacement)

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BIA Roads Conclusions

- Cost Arrangement is Relatively Expenditure/Revenue Neutral *For Direct Costs*
- Indirect Costs and Equipment Replacement are Not Included in the Agreement
- Additional Service Requires Contract Amendment with BIA
- Current Status of Agreement

  Renewal

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U.S. Forest Service Roads

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U.S. Forest Service Roads Authority to Maintain

- Maintenance is NOT a State Mandate

- Authorized Through Road Maintenance Agreement (Schedule A)

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History of Maintaining USFS-Owned Roads

- Environmental Litigation & Other Factors Lead to Reduction of and Ultimate Closing of Lumber & Timber Industries in 1980s & 1990s
- Timber Industry Paid Fees to USFS & Was Responsible for Building & Maintaining USFS Roads Used to Support Logging Operations
- Federal Forest Revenues Declined Sharply & Industry No Longer Invested in Roads

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Forest Service Roads Agreement

- Agreement Established in 1987 to Maintain USFS Owned Roads in Response to a Request for Cooperative Assistance
- The Agreement Included a List of 171 Miles of Forest Service Roads to be Maintained (Schedule A Roads)
- The Number of Miles to be Maintained Increased to 283 in 1998
- Historically and Currently, Criteria Used:
  - Farm to Market Roads
  - Roads to Material Pits
  - Shortcuts to Highways
  - Roads to Private Homes Or Subdivisions

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Forest Service Roads Agreement

- Maintenance Defined within the Agreement as “Preserving and Keeping the Roads as Nearly as Possible in their Original Condition as Constructed or Reconstructed to Provide Satisfactory and Safe Road Service”

Key Issues – Forest Service Roads

- Schedule A Paved Roads Need Major Investment Due to Deterioration
- Impacts & Costs to Road Maintenance from 4FRI
- USFS Travel Management Plan Impacts
- Requests to Maintain Roads Not on Schedule A
- Federal Capital Funding is Now More Competitive

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Key Takeaways

- Through Agreements and With a Complex History, County Maintains BIA & USFS Roads
- County Subsidizes and Uses Revenue Streams to Maintain These Roads
- BIA & Many of the USFS Roads Maintained by the County are Key Regional Connectors

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Questions

Overall Takeaways

- Roads are the County's Largest and Most Valued Asset
- Revenue to Support Roads is Near 1998 Level
- 25% - 35% of County's Paved Roads are at Severe or Poor Condition
- County Spending Fraction of What is Needed to Maintain Paved Roads

Questions & Discussion

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